



# Monetary Statistics

Financial Programming and Policies  
Vang Vieng, Lao PDR  
May 5 – 16, 2014

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**TAOLAM**

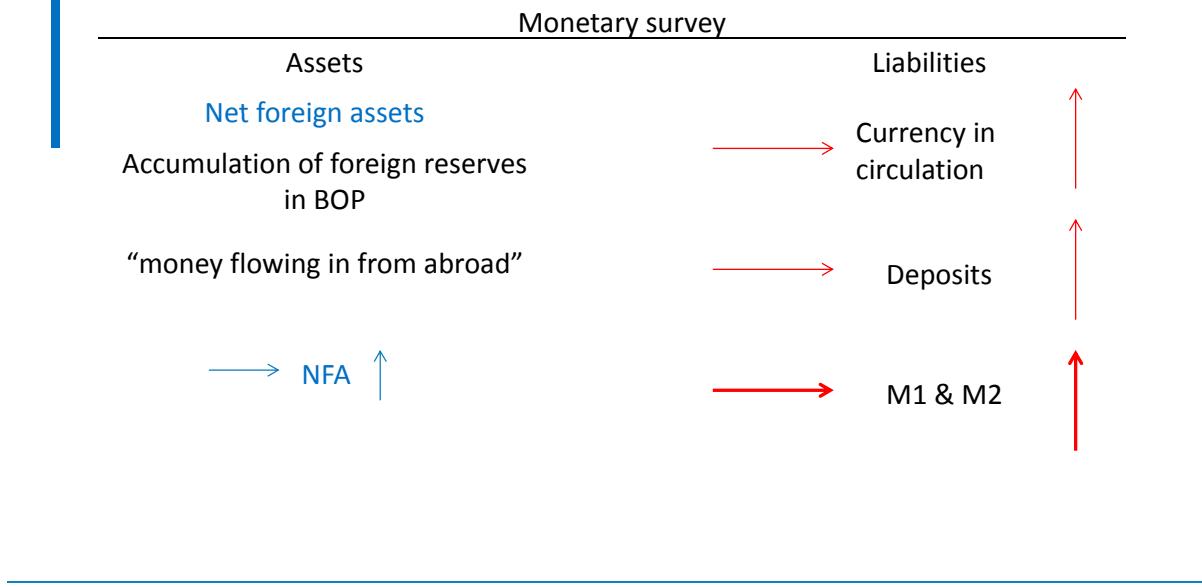
## Outline

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- I. Impact of External and Fiscal Sectors  
on Money Creation**
- II. Endogenous Money Creation**
- III. The Money Multiplier**

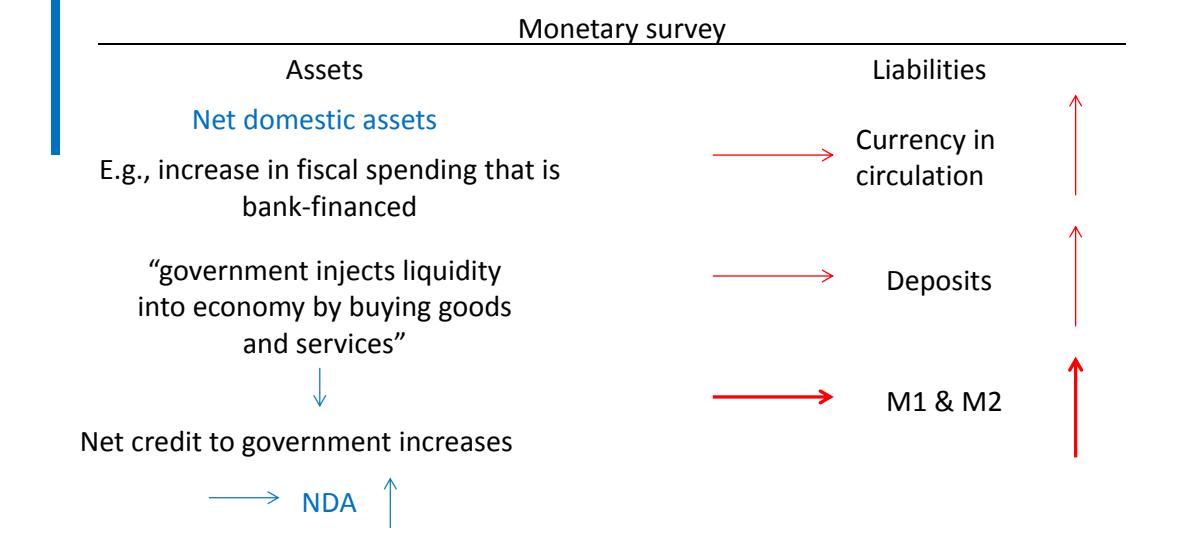
## Impact of External and Fiscal Sectors on Money Creation

### External Sector



## Impact of External and Fiscal Sectors on Money Creation

### Fiscal Sector



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## Endogenous Money Creation

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*Let's begin with a YouTube video on fractional reserve banking ...*

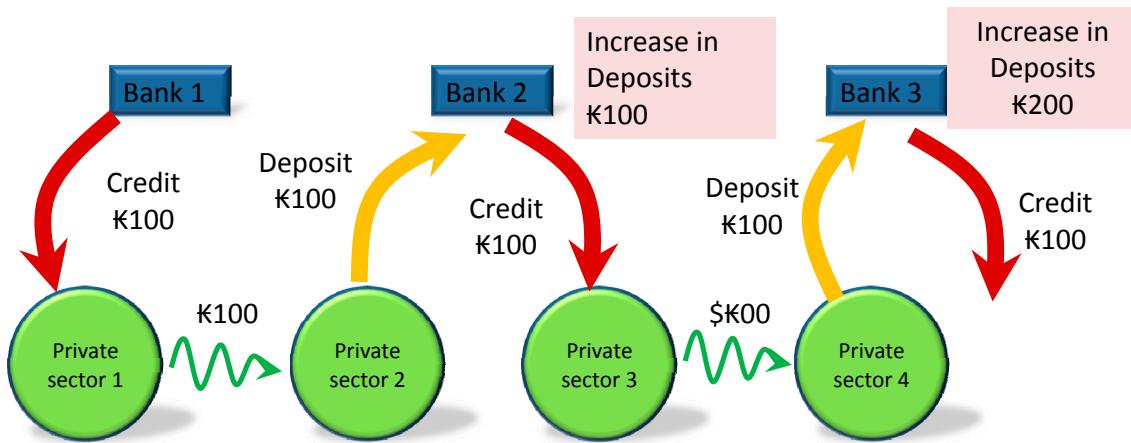


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# Consider Endogenous Money Creation in a World Without Reserve Requirements

Example for boundless endogenous money creation without reserve requirements: a bank extends credit of Kip 100, which fuels further deposit and credit creation ...



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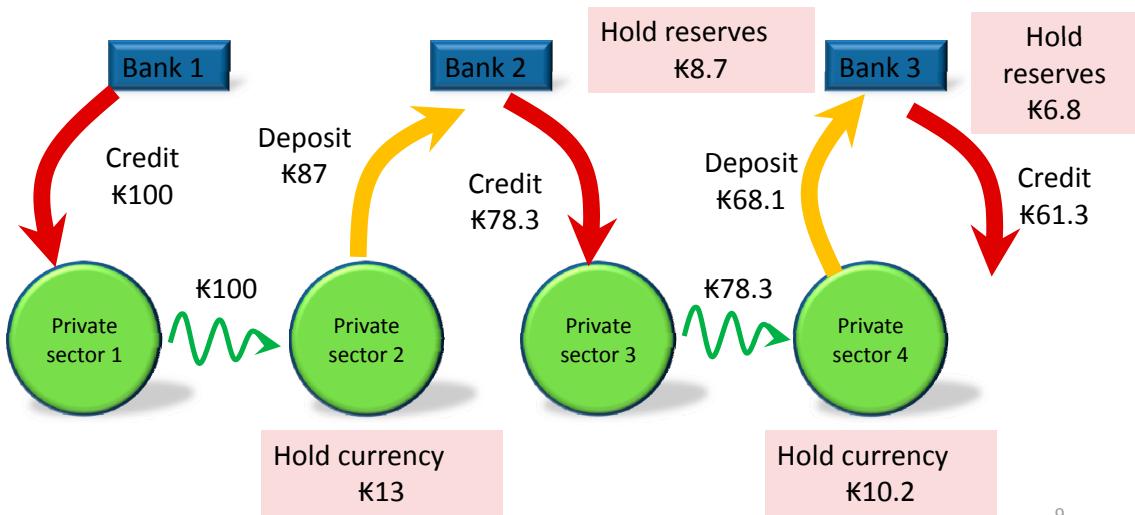
## Now Limit Money Creation through Reserve Requirements & Currency Demand

Adding more detail to the Central Bank Balance Sheet:

Net foreign assets (NFA)	Reserve money (RM)
Net domestic assets (NDA)	Currency issued
Net claims on the government (NCG)	Reserves of commercial banks with central bank (deposits with CB)
Claims on commercial banks	Required reserves
Claims on other resident sectors	Excess reserves
Other items net	Other deposits

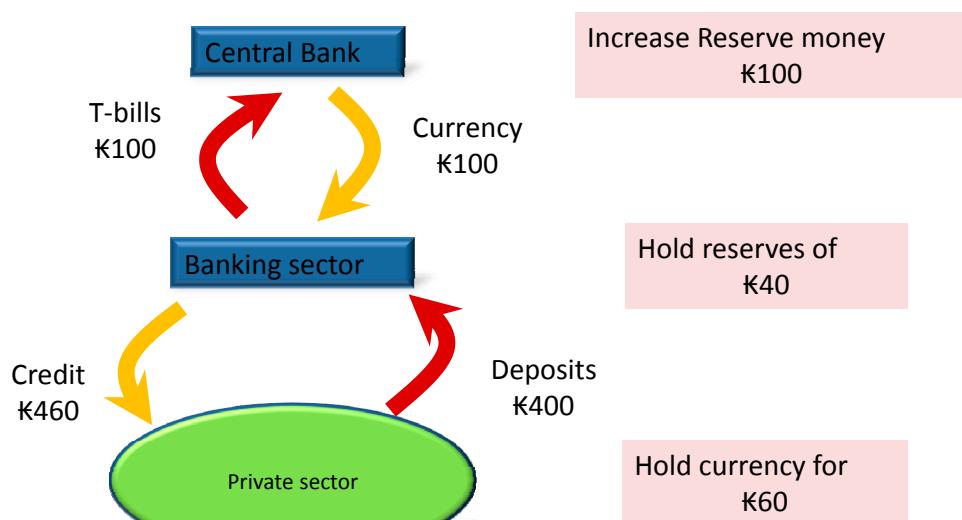
## Limiting Money Creation through Reserve Requirements & Currency Demand

Now: a bank extends credit of Kip 100 with 10% reserve requirements and currency-to-deposit ratio of 15 %



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*End-result: increase in reserve money by Kip 100 leads to increase in broad money by Kip 460 (deposits 400 + currency 60). That is, increase in broad money exceeds increase in reserve money by factor of 4.6!*



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I. Impact of External and Fiscal Sectors  
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**III. The Money Multiplier**

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## The Money Multiplier

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The money multiplier provides the link between reserve money—which is under the control of the central bank—and broad money, including credit growth:



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## Deriving the Money Multiplier

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The extent of endogenous money creation is governed by the money multiplier which links broad money (M2) to reserve money (RM):

$$M2 = m \cdot RM$$

$$m = \frac{M2}{RM} = \frac{C+D}{C+R} = \frac{\frac{C}{D} + \frac{D}{D}}{\frac{C}{D} + \frac{R}{D}} = \frac{c+1}{c+r}$$

where  $C$  = currency in circulation,  $R$  = Reserves held at CB (commercial bank deposits at CB) and  $D$  = deposits of private sector with commercial banks).

The money multiplier is a function of

- $c$  = currency-to-deposits ratio (behavioral variable)
- $r$  = reserve-to-deposits ratio (policy variable)

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## Determinants of the Money Multiplier

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Fundamental determinants of the money multiplier:

- reserve requirements decided by the central bank → matters for reserve-to-deposits ratio
- Willingness of banks to hold excess reserves (liquidity risks, credit risk, foregone interest earnings) → matters for reserve-to-deposits ratio
- Willingness of households and firms to hold cash instead of deposits (liquidity risks, foregone interest earnings) → matters for currency-to-deposits ratio

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# Influencing Money Creation in Lao PDR

Having seen that the central bank can influence the money creation process, how does this work in Lao PDR? Specifically,

- What are the operating targets of the Bank of Lao P.D.R.?
- And what are its instruments?



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# Influencing Money Creation in Lao PDR

## Operating Targets and Instruments of Bank of Lao P.D.R. (2012)

- Operating target: still under study (as of 2012)
  - Quantitative-based? (vs. interest-rate based)
  - Operational independence: issue is fiscal financing
- Instruments:
  - Reserve requirements → affects money multiplier
  - Statutory liquidity requirement → also affects money multiplier
  - Money market operations (sales of BoL bonds) → affects bank reserves (withdraws liquidity)
  - Standing facility → also affects bank reserves (injects liquidity)

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## Summary

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- Monetary accounts are critical for analysis of monetary conditions and formulation as well as implementation of monetary policy
- Money creation is partly linked to developments in other sectors and partly an endogenous process that can be influenced by monetary policy